

## Defensive functioning in MtF and FtM transsexuals

Antonio Prunas<sup>a,b,c,\*</sup>, Roberto Vitelli<sup>d</sup>, Filomena Agnello<sup>d</sup>, Elena Curti<sup>d</sup>, Paolo Fazzari<sup>d</sup>,  
Francesca Giannini<sup>d</sup>, Diamante Hartmann<sup>e</sup>, Maurizio Bini<sup>e</sup><sup>a</sup>Department of Psychology, Milan-Bicocca State University, Milan, Italy<sup>b</sup>Italian Association for Sexuology and Applied Psychology (Associazione Italiana Sessuologia e Psicologia Applicata, AISPA), Milan, Italy<sup>c</sup>Personality Disorders Lab, Parma, Italy<sup>d</sup>Dipartimento di Neuroscienze e Scienze Riproduttive ed Odontostomatologiche, University of Naples “Federico II”, Naples, Italy<sup>e</sup>Gender Identity Disorder Unit, Niguarda Ca’ Granda Hospital, Milan, Italy

## Abstract

In spite of the potential clinical utility of defense mechanisms in the assessment of gender identity disorder patients as candidates to sex reassignment surgery, there is paucity of research in this field. The aim of the present study is therefore to ascertain whether the defensive profile of MtF and FtM transsexuals seeking sex reassignment surgery can be defined more primitive, immature and maladaptive than that of the two control groups. We compared the defensive profiles as assessed through the REM-71 (Steiner et al., 2001) of 104 MtF transsexuals, 46 FtM transsexuals and two control groups of males and females.

Our results show that MtF transsexuals present an overall more primitive defensive array than that of both control groups, while FtMs show a profile not dissimilar from that of both control groups. Our results support the hypothesis that MtF transsexuals are characterized by higher proneness to psychopathology than the general population and show a more immature level of psychological functioning than FtM transsexuals.

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## 1. Introduction

Gender identity disorder (GID) [1] is characterized by a strong and persistent cross-gender identification and a long-standing discomfort with one's own sex or sense of inappropriateness in the gender role of that sex. In adulthood, it is often accompanied by a request for cross-sex hormonal treatment and/or sex reassignment surgery (SRS) in accordance with the self-perceived gender identity. In the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5) [2] this diagnosis was recently replaced by gender dysphoria which refers to an individual's affective/cognitive discontent with the assigned gender at birth. *Transsexualism* is a further specific way of designating this condition which is still adopted in scientific literature [3]; according to the new edition of the DSM [2],

“Transsexual denotes an individual who seeks, or has undergone, a social transition from male to female [MtF] or female to male [FtM], which in many, but not all, cases also involves a somatic transition by cross-sex hormone treatment and genital surgery” (p.451).

SRS has been practised for decades and is now internationally recognized as the treatment of choice for extreme cases of GID, in which it is essential and medically necessary to alleviate gender dysphoria. Although the efficacy of this therapeutic intervention is well-established by several follow-up studies based on a wide range of diverse outcome measures [4,5], more recent contributions have questioned this assumption suggesting that, after SRS, persons with transsexualism are still at higher risk for mortality, suicidal behaviour and psychiatric morbidity [6,7]. Therefore, the psychological assessment of candidates for SRS still remains a particularly delicate matter.

Defense mechanisms have shown to be markers of psychopathology and vulnerability to psychopathology [8] and, as such, might be useful prognostic variables to assess during pre-operative counselling of transsexual people seeking SRS.

\* Corresponding author at: Dipartimento di Psicologia, Università degli Studi di Milano Bicocca, Edificio U6, Piazza dell'Ateneo Nuovo 1, 20126, Milan, Italy.

E-mail address: [antonio.prunas@unimib.it](mailto:antonio.prunas@unimib.it) (A. Prunas).

URL: <http://www.pdlab.it> (A. Prunas).

The DSM-5 [2, p. 819] defines defenses as “mechanisms that mediate the individual’s reaction to emotional conflicts and to external stressors. Some defense mechanisms (e.g. projection, splitting, acting out) are invariably maladaptive. Others (e.g. suppression, denial) may be either maladaptive or adaptive, depending on their severity, their inflexibility, and the context in which they occur”. Defense mechanisms are therefore connected with how individuals usually deal with conflicts and provide solid parameters to understand how personality is organized [9].

A very large body of research clearly shows that the degree and type of defenses are connected to the degree and severity of psychopathology, both within the normal to subclinical range and at the more extreme levels of psychological disturbance (i.e. full-blown psychiatric disorders) [8]. Also, some evidence suggests that defenses may antedate symptoms and predispose to psychopathology. Among the very few longitudinal studies available in this field, Vaillant’s pioneer research [10] has shown that the individual’s defense style can be considered a stable and enduring personality trait and that mature defenses promote good adjustment and mental health, while neurotic and immature defenses increase the risk for maladaptation and psychopathology. Tuulio-Henriksson and colleagues [11] in a 5-year longitudinal study of late-adolescents, observed that an immature defensive array at first assessment could predict, 5 years later, higher levels of self-referred psychopathology, while mature defenses were predictive, although only in females, of lower levels of psychological distress.

Finally, given the psychological resources necessary to adapt to the new condition during and after the gender transition process, the defensive profile can be useful in assessing the overall maturity and flexibility of transsexual people in coping with significant, stressful life events. In spite of the potential clinical utility of an exploration of the prevalence and the typology of defense mechanisms in transsexual people, little research has been carried out so far.

Among the few studies available, Lobato and colleagues [12] compared the defensive profile (as assessed through the Defense Style Questionnaire [13]) of a sample of 32 MtF transsexual patients before and after SRS, finding that no significant change occurred one year after surgery. However, the authors did not compare the defensive array of this sample with that of a control group, so no conclusion could be drawn about the overall maturity/immaturity of their profile; also, they did not include FtM transsexuals in their study. This latter point is particularly crucial as several studies have demonstrated that FtM transsexuals tend to function psychosocially better than MtFs [14–21], although some others did not detect any difference [22–24]. Therefore, this issue remains controversial.

Less recent studies [25,26], carried out using the Defense Mechanism Test (i.e. a projective perceptual test), showed a higher use of projection and introjection responses in GID patients when compared to borderline patients and controls.

However, the use of this projective technique has been shown to have several drawbacks [27].

To our knowledge, no study has as so far been carried out to explore the defensive profile of MtF and FtM transsexuals seeking SRS comparing it to that of non clinical controls using psychometrically sound assessment instruments.

The first aim of the present study is therefore to ascertain whether the defensive profile of transsexuals seeking SRS can generically be defined more primitive, immature and maladaptive than that of controls from the general population.

Secondly, given that the defensive profile of men and women has shown significant differences across all age groups [11,28–30], each of the transsexual groups will be compared with male and female controls in order to assess whether similarities in the defensive profile can be found as a result of constitutional variables or adherence to gender stereotypes. The comparison with both control groups is also necessary given that research on whether personality traits in transsexuals are congruent with the preferred sex is still lacking [31]; also, evidence from previous studies using self-report instruments (mainly the MMPI-II) in GID patients exists that the psychological profiles as derived using norms of the desired gender are less deviant and dysfunctional than those obtained adopting the anatomical sex as reference [14].

## 2. Methods and procedures

Adults suffering from GID seeking sex reassignment surgery at two gender clinics (Gender Identity Disorder Unit, Niguarda Ca’ Granda Hospital, Milan and Clinical Psychology Unit of the Clinical Department of Neuroscience and Behaviour of “Federico II” University Hospital, Naples) between 2011 and January 2013 were asked to participate.

These are two public hospitals offering specialized and comprehensive psychiatric, psychological, endocrinological and surgical sex reassignment therapy in Northern and Southern Italy. Both centers operate according to international clinical guidelines proposed by the World Professional Association for Transgender Health [32].

The sample was composed of 104 MtF transsexuals (mean age: 29.43 y; SD = ± 9.34 y) and 46 FtM transsexuals (mean age: 29.28 y; SD = ± 8.10 y) consecutively admitted at the two centers.

The criteria for inclusion in the study were the presence of a formal diagnosis of GID (according to *DSM IV-TR*), age above 18 years, and absence of any current major psychiatric disorders (schizophrenia, schizoaffective, schizophreniform or delusional disorder according to *DSM-IV-TR* criteria, dementia or organic mental disorders, mental retardation and other cognitive disorders, active substance dependence). Inclusion criteria were assessed after several sessions with two mental health professionals (clinical psychologists and psychiatrists).

We also sampled two control groups composed of 93 males and 66 females randomly extracted from the normative sample of the validation study of the Italian version of the REM-71; the recruitment of the sample has been described elsewhere [33]. Mean age in these samples was 32.02 y (SD =  $\pm 7.19$  y) and 35.06 y (SD =  $\pm 6.52$  y) respectively.

The demographic characteristics of the whole experimental sample and control groups showed a medium socioeconomic status.

The study was approved by the Institutional Review Board. All subjects provided their written informed consent. A trained researcher read a standardized version of the information related to the current study and provided information about the procedures that the participants would undergo if they agreed to take part in the research. Once informed consent was given, the same psychologist administered the standard testing tools.

### 3. Assessment instruments

#### 3.1. Response Evaluation Measure-71

The REM-71 [34] is a self-report, 71-item questionnaire for the assessment of defensive style. It allows the assessment of 21 defenses, each of which is derived from responses to three or four questions. Subjects are asked to rate their endorsement of each item on a 9-point scale from “strongly disagree” (scored as “1”) to “strongly agree” (scored as “9”). The score for each defense is obtained as an average of the scores for the items representing that defense. All participants completed the Italian version of the instrument, whose psychometric properties have been explored in two previous papers [33,35]. These studies provided support for the two dimensional organization of defenses: Factor 1 contains immature defenses that tend to distort reality and which are more commonly associated with less adaptive functioning; by contrast, Factor 2 of the REM-71 contains mature defenses that attenuate distressing reality but which allow for more adaptive functioning. Preliminary evidence of a connection between Factor 1 defenses and psychopathology as assessed using the Symptom Checklist-90-Revised (SCL-90-R) [36,37] was provided [33]. In a later study [35], using ROC analysis, the authors were then able to identify the cut-off score for Factor 1 (i.e. mean score of 4.40 or higher) which might be of clinical utility in the identification and screening of adults considered to be at risk of a major psychiatric diagnosis or of clinically relevant psychopathology.

#### 3.2. Analyses

We first compared the mean scores (i.e. 21 defense mechanisms and 2 factor scores) of the four groups through a series of univariate ANOVAs. In case of a significant omnibus F test, a contrast analysis was then run for each score to test hypotheses about defensive functioning in the

GID groups and the two control groups. In particular, each of the two patient groups was compared with each of the control groups. In contrast analysis, the level of significance was corrected according to Bonferroni procedure for multiple contrasts ( $p = 0.05/4 = 0.0125$ ).

Finally, we compared the number of participants in each clinical sample who scored above the cut-off score of caseness suggested in a previous study [35], with the corresponding control group matched by biological sex.

## 4. Results

Descriptive statistics and results from the ANOVAs are summarized in Table 1.

As shown, when considering the MtF group, for 9 out of 14 Factor 1 defense mechanisms, we found a significantly higher score than that of the two control groups; for two more defenses (*Displacement* and *Repression*), mean score was higher than that of only one control group (male and female controls respectively), and for the remaining three (*Acting out*, *Somatization* and *Withdrawal*), no difference was found with any of the control groups. These results also reflect in Factor 1 total score, which was higher in the MtF group compared to the two control groups. As for Factor 2 defenses, MtF transsexuals showed a higher score than female controls on *Denial*, *Intellectualization* and Factor 2 total score.

As for the FtM group, among Factor 1 defenses, only *Sublimation* showed higher scores than the two control groups and for three more defenses (*Fantasy*, *Undoing* and *Omnipotence*) we found higher scores than the female control group only. As for Factor 2 defenses, FtM transsexuals showed higher scores than female controls only on *Denial*.

Finally, we compared the number of participants in each clinical sample who scored above the cut-off score of caseness suggested in a previous study [35], with the corresponding control group matched by biological sex. When comparing MtF and non clinical males, the prevalence of caseness was significantly higher in the former group (respectively 44.4% vs 12.9%; c.c.  $\chi^2 = 21.590$ ; df = 1;  $p < 0.001$ ), while no difference was found when comparing FtM transsexuals and female controls (respectively 29.2% vs 15.1%; c.c.  $\chi^2 = 2.282$ ; df = 1;  $p > 0.05$ ).

## 5. Discussion

The main objective of this study was to carry out an investigation of the defensive array in a sample of MtF and FtM transsexuals compared to that of controls matched by anatomical sex and by gender in order to ascertain whether it could be generically defined as less adaptive and mature. This hypothesis was supported by a large body of literature

Table 1

Descriptive statistics for REM-71 scores for each of the 4 groups, univariate ANOVAs and contrast analyses.

|                   |                     | MtFs ( <i>n</i> = 104) | Male controls ( <i>n</i> = 93) | Female controls ( <i>n</i> = 66) | FtMs ( <i>n</i> = 46) | <i>F</i> ( <sub>3,223</sub> ), <i>p</i> value |
|-------------------|---------------------|------------------------|--------------------------------|----------------------------------|-----------------------|---|
| FACTOR 1 defenses | Displacement        | 3.13 ± 1.85            | 2.42 ± 1.03*                   | 2.72 ± 1.57                      | 2.65 ± 1.55           | 3.606, <b><i>p</i> &lt; .05</b>               |
|                   | Acting out          | 3.71 ± 2.20            | 3.11 ± 1.36                    | 3.38 ± 1.60                      | 2.84 ± 1.75           | 3.181, <b><i>p</i> &lt; .05</b>               |
|                   | Splitting           | 6.05 ± 1.69            | 5.03 ± 1.63*                   | 5.20 ± 1.74*                     | 5.20 ± 1.73           | 7.189, <b><i>p</i> &lt; .001</b>              |
|                   | Dissociation        | 3.66 ± 2.10            | 2.40 ± 1.37*                   | 2.60 ± 1.28*                     | 2.51 ± 1.60           | 11.577, <b><i>p</i> &lt; .001</b>             |
|                   | Fantasy             | 5.13 ± 2.08            | 3.44 ± 1.78*                   | 2.97 ± 1.59*, <sup>†</sup>       | 4.20 ± 1.88           | 22.510, <b><i>p</i> &lt; .001</b>             |
|                   | Omnipotence         | 5.54 ± 1.84            | 4.73 ± 1.24*                   | 4.20 ± 1.10*, <sup>†</sup>       | 4.96 ± 1.91           | 10.622, <b><i>p</i> &lt; .001</b>             |
|                   | Pass.-aggression    | 4.63 ± 1.71            | 4.01 ± 1.35*                   | 3.75 ± 1.45*                     | 3.70 ± 1.50           | 6.575, <b><i>p</i> &lt; .001</b>              |
|                   | Projection          | 2.95 ± 1.91            | 1.93 ± 0.88*                   | 1.78 ± 0.81*                     | 2.17 ± 1.30           | 13.466, <b><i>p</i> &lt; .001</b>             |
|                   | Repression          | 3.91 ± 1.76            | 3.80 ± 1.63                    | 3.23 ± 1.55*                     | 3.43 ± 1.83           | 2.676, <b><i>p</i> &lt; .05</b>               |
|                   | Undoing             | 5.12 ± 2.26            | 3.46 ± 1.61*                   | 3.02 ± 1.84*, <sup>†</sup>       | 4.09 ± 2.08           | 19.192, <b><i>p</i> &lt; .001</b>             |
|                   | Sublimation         | 5.86 ± 1.82            | 5.06 ± 1.64*, <sup>†</sup>     | 4.93 ± 1.73*, <sup>†</sup>       | 5.98 ± 1.68           | 6.989, <b><i>p</i> &lt; .001</b>              |
|                   | Conversion          | 1.68 ± 1.36            | 1.24 ± 0.68*                   | 1.15 ± 0.65*                     | 1.39 ± 1.11           | 4.641, <b><i>p</i> &lt; .01</b>               |
|                   | Somatization        | 3.77 ± 2.04            | 3.33 ± 1.88                    | 3.93 ± 1.86                      | 3.69 ± 2.01           | 1.417, NS                                     |
|                   | Withdrawal          | 5.63 ± 2.45            | 5.54 ± 1.86                    | 5.95 ± 2.07                      | 5.67 ± 2.31           | 0.490, NS                                     |
| FACTOR 2 defenses | Denial              | 5.10 ± 2.06            | 4.65 ± 1.54                    | 4.07 ± 1.62*, <sup>†</sup>       | 4.85 ± 2.13           | 4.329, <b><i>p</i> &lt; .01</b>               |
|                   | Humour              | 5.44 ± 1.79            | 5.64 ± 1.62                    | 5.07 ± 2.02                      | 5.13 ± 1.84           | 1.651, NS                                     |
|                   | Idealization        | 5.91 ± 2.37            | 5.83 ± 1.85                    | 5.93 ± 2.00                      | 5.87 ± 1.58           | 0.038, NS                                     |
|                   | Intellectualization | 6.11 ± 1.59            | 5.61 ± 1.37                    | 4.97 ± 1.21*                     | 5.63 ± 1.64           | 8.368, <b><i>p</i> &lt; .001</b>              |
|                   | React. formation    | 4.44 ± 1.83            | 4.13 ± 1.55                    | 3.79 ± 1.52                      | 4.11 ± 1.68           | 2.097, NS                                     |
|                   | Suppression         | 4.47 ± 2.29            | 4.89 ± 1.98                    | 3.86 ± 1.95                      | 4.21 ± 2.38           | 3.123, <b><i>p</i> &lt; .05</b>               |
|                   | Altruism            | 7.50 ± 1.38            | 7.08 ± 1.23                    | 7.35 ± 1.02                      | 7.38 ± 1.36           | 1.822, NS                                     |
|                   | FACTOR 1            | 4.36 ± 1.19            | 3.55 ± 0.72*                   | 3.49 ± 0.84*                     | 3.77 ± 1.04           | 15.367, <b><i>p</i> &lt; .001</b>             |
|                   | FACTOR 2            | 5.64 ± 0.96            | 5.50 ± 0.80                    | 5.15 ± 0.77*                     | 5.49 ± 0.88           | 4.268, <b><i>p</i> &lt; .01</b>               |

\* Indicates the significance of contrasts opposing MtF patients to male and female controls.

<sup>†</sup> Indicates the significance of contrasts opposing FTM patients to male and female controls (*p* = 0.05/4 = 0.0125).

suggesting that psychiatric distress is frequently associated with a more immature defensive functioning [8].

Our results support the hypothesis that MtF transsexuals, but not FtM transsexuals, show a more maladaptive and primitive defensive array than that of both control groups (i.e. higher score than both control groups on most Factor 1 defense mechanisms and a higher overall Factor 1 score). This finding is further supported by the observation that a higher percentage of MtF transsexuals than male controls obtained a Factor 1 score above the clinical threshold suggesting a clinically relevant higher vulnerability to psychopathology; again this was not the case for FtM transsexuals when compared to female controls.

The finding of a higher endorsement of most Factor 1 defenses in MtFs when compared to a control group matched by either biological sex or gender, supports the notion that this immature profile is not an artefact connected to the use of norms of the anatomical sex, as observed with the use of the MMPI-2 in transsexual people [14].

These results are in line with previous studies pointing out that MtF transsexual people are frequently characterized by higher levels of psychiatric morbidity than the general population [38], in particular affective and anxiety disorders [39]; also, they are supported by previous research suggesting that MtF transsexuals show a lower level of psychological functioning than FtM transsexuals [14,15,18–21,40].

Although the more primitive defensive profile assessed in MtFs might reflect a higher degree of vulnerability to psychopathology, another possible explanation is that it might be considered the result of long-term exposure to

minority stress [32,41]; interestingly enough, given the increased visibility and societal rigidity of gender appropriate behaviours for natal males, discrimination and violence against MtF transsexuals have been shown to be more prevalent in this group than it is the case for FtMs [42].

It can be hypothesized that, given that adult transsexuals often report that they experienced their first desire to be of the opposite sex or to change sex in middle childhood [43], being exposed to significant prejudice and discrimination since the very early years [44] might induce, in the long run, MtF transsexuals to adopt specific defense mechanisms to deal with interpersonal stressors; in this sense, the higher use of projection (i.e. “I am often treated unfairly” or “Everyone is against me”), splitting (“People either love me or hate me”), or fantasy (“I like to imagine that my life is very different”) observed in the MtF sample, can reasonably be understood as stress-related coping strategies. In order to further explore this hypothesis, future research should compare the defensive array of early-onset and late-onset MtF GID patients.

However, it must be pointed out that the complex relationship between psychopathology and GID is still far to be completely understood and the hypotheses suggested here are just a few among the many formulated to disentangle this issue [38]; therefore, this point remains merely speculative and requires further exploration in future studies.

There are several important limitations to this study. First of all, criticism has been raised against the use of self-report instruments for the assessment of defensive style [45], on the



ground that a self-rating scale cannot provide reliable information on a psychological construct that is assumed to operate outside of the individual's awareness. However, like other self-rated instruments, the REM-71 is not designed to collect information on defenses *per se*, but rather on the behavioural counterparts of defensive functioning, on which every individual can reasonably provide a reliable account; also, the REM-71 was shown to possess good psychometric properties in both the original version and in its Italian adaptation [33,34]. Future studies should confront this issue and further expand our results by comparing the defensive array of transsexuals and controls using structured clinical interviews (i.e. the defense section of the *Structured Clinical Interview of Personality Organization*) [46] or other clinician-rated approaches (i.e. the *Defense Mechanisms Rating Scale*) [47].

Future studies should also explore the potential prognostic relevance of the assessment of defense mechanisms in SRS candidates, by correlating the defensive array assessed before surgery, with post-surgery variables (e.g. regret, general satisfaction, overall psychological functioning, psychopathology, suicidality), in a follow-up study design.

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